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### Official Publication Of

PALO ALTO AMATEUR RADIO ASSOCIATION (PAARA)

### WOOTX

Palo Alto Amateur Radio Affiliated
Association Clubs

KOYQT

Menlo Park C-Radio Club

ORGANIZED FOR
PUBLIC SERVICE, SCIENTIFIC, EDUCATIONAL AND
SOCIAL BENEFITS TO AMATEUR RADIO OPERATORS
(A non-profit organization; Incorporated 1956)

NEXT PLANNED FUNCTION

Date: Friday 4 August 7:30 PM;

Place: Menlo Park Recreation Bldg (Assemble)
Program: Field Trip to Stanford Radio Telescope,

All hands assemble at the Menlo Park Recreation Bldg at 7:30 PM. Leave as a group to gate on Alpine Road/Bridge. Thence to Radio Telescope. Gate must be locked so late arrivers cannot get in. (See Pg 4)

TO TO TO TO TO TO

Vol.XVI No.8

Aug. 1972

ADMINISTRATIVE BOARD OF DIRECTORS President: Fred Canham W6QWF Chairman: Fred Canham W6QWF Vice Pres: Andy Korsak VE3FZK Sect'y Les Vickery W6AKR Secretary: Les Vickery W6AKR Member : Hal Moore W6DEF Treasurer: Vance Wardlow W6FLE : Ed Fairbanks W6AIN **RPPOINTMENTS** : Gerry Laxson W60PA Chmn TVI Comm: Glen Baker W6UOK . Bob Allen W6WQD " Publicity: Larry Rice W6IQT : Andy Korsak VE3FZK Egpt Custodian: Ed Fairbanks W6AIN " : Vance Wardlow W6FLE CCRC Rep. Fred Canham W6QWF; Membership Com. Hal Moore W6DEF Refreshment & Raffle Com. Telephone Com. Ed Fairbanks W6AIN Larry Rice, W6IQT Lee Zalaznik WB6BJB Andy Korsak VE3FZK Les Vickery W6AKR

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Editor: Vance Wardlow W6FLE; Ph 854 0803; P.O.Box 911 MP POLICY: Membership includes subscription to PAARAGRAPHS 34. Subscription rate \$1 per year. Non-subscribers will be dropped as new names are added to the mailing list. For your APPLICATION FOR MEMBERSHIP send \$4 dues to PAARA, P.O.Box 911, Menlo fark, Ca. 94025. For info phone 854 0803.

support your club support your club SUPPORT YOUR CLUB BECOME A PARTICIPATOR

GET INVOLVED

PAY YOUR DUES DO SOMETHING

FUTURE PROGRAMS Wednesday 9 August, 7:30PM PAARA Trailer-Bd of Dir Meeting.

Friday 1 September: SAN CARLOS AMATEUR RADIO CLUB will host the meeting at the Vets Memorial Building at Redwood City. Meeting 7:30PM, program announced later.

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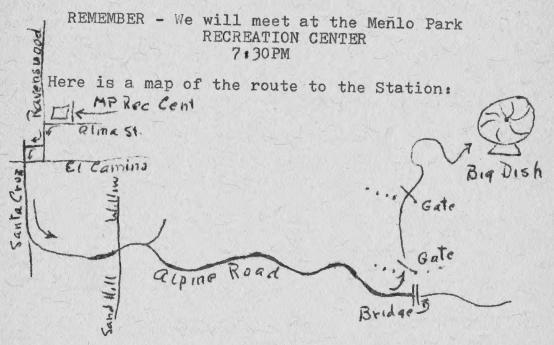
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Mr. George Durfey of SRI Stanford Radio Telescope at is an antenna designer. He designs and builds them and agencies to operate.

His antenna designs have been used by NASA for tracking deep space probes such as the Mariner and Pioneer probes. His designs provide for the means of transmitting and from the satellites.

Basicly the system consists will give us a run-down on theof utilizing two separate frequencies. By using the Faraday the August meeting. Mr. Durfeyshift phenomena intelegence is accurately transmitted and unscrambled at the receiver. then turns them over to other The intelligence is stored and transmitted to the Goldstone station where interpretations are made.

The program has been operating for 5 years. It is mostly to investigate atmospheric physics such as back-scatter and receiving intelligence to and phase shift. Some radio-astronomy is accomplished also.



POWDER PUFF DERBY Lots of preparation, much talk and a whole lot of work went into araangements for handling communications for the 26th annual Powder Puff Derby. There were the usual promises of help and the VERY usual failure to produce. But in spite of many frustrations the station was set up and the Greg Garcia, WB6DAI; communications were provided.

The 26th annual Powder Puff

Derby started from San Carlos Airport on July 7th. Ninety seven planes took off for Toms of Amateur Public Service at River, N.J. Palo Alto Amateur its best. All participants Radio Assn. (PAARA) was sele- turned to with real enthusiacted by the race committee to sm. And despite the frustratprovide the amateur radio fac-ions inherent in such an operilities at the Villa Hotel in ation all completed the exer-Belmont and at the airport it-cise with a feeling of accomself. Antennas were errected plishment. And surely all had for 40, 20 and 2 meters, also learned something from the 432mhz beams for ATV. ATV pic-experience. tures to the hotel enabled contestants to monitor activ- main thrust of handling the ities at the airport prior to messages for the PP Derby the the start of the race. SSB(ughregular PAARA meeting for the was used for net relay of air-month of July was held at the craft times to the ten stationSan Carlos Airport on takein the cross country net. Ground handling of the aircraf20 members showed up and all during the week preceding the had the opportunity to see take-off was accomplished withjust what our PARTICIPATORS 2 meter fm walkie-talkies man-are capable of doing when they hed by members of Bay Arearep-get their minds set to it!! eater groups and arranged for WE DO NEED MORE SUCH ACTIVE by WA6JXO, Lucky Rogers.

PAARA set up and manned the HF long haul link as well as the ATV link to the hotel.

Those participating were: Luck Rogers. WA6JXO: Ed Fairbanks, W6AIN; Lee Zalaznik, WB6BJB: Andy Korsak, VE3FZK; Paul Thekan, WN6DQU: Kip Wallace, W2PGW/6: Ray Allustriarti, W6JOV: Larry Reed. W6CTH; Fred Gemler. W6MYO and

Chairman Fred Canham. W6QWF. It was a fine demonstartion

Somewhat incidently to the off day 7 July. About 15 or WE DO NEED MORE SUCH ACTIVE MEMBERS TO GET IN AND GO ! !

## TELTUC CICAR MAH

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THROUGH BOB FERRERO, K6AHV, AT HAM RADIO OUTLET

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### SPECIAL ANNOUCEMENT

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THE AWTAR NET 1972 MORE POWDER PUFF DERBY From the broad pacific to the W3GTC C. Currens, Chairman WooWF Fred CAnham San Carlos wide atlantic shore, Amateur W7JZ Joe Yeasel Winnemucca Nev. Radio, under the direction of WA7FVQ Lloyd Bute Ogden Utah W3GTC, Mrs. Carolyn Currens. was called upon to handle comm-W7PJX G. Brown Rock Springs Wy. WØVQR H. Peppert Scottsbluff Neb. unications for the 1972 Powder KØMMS P. Babinate Souix City Io. Puff Derby. This was the 20th K9MVJ Leo Williams Moline Ill. year that an amateur radio net W9TQA J. Franke Ft. Wayne Ind. has assisted with the All-Woman Trans-Continental Air Race, K3DMG L. Shelly Latobe Pa. and Mrs. Curren's 15th year as K3AN K. Niskanen Latobe Pa. W2JBK C.Cella TOM'S RIVER N.J. Communications Chairman. The race start, all enroute airport stops, and the finish were

relay team. Aircraft arrived at San Car- WA6AXV, Dick los Airport(in the San Francisc B6SKA, Alex Bay Area) from July 1 to Huly 6. There they were inspected both mechanically and structurally by race officials, and impounded until the start of the race by CAP personnel.

covered by members of a Ham

Members of the Oakland WB6-AAE Repeater Group, organized by Lucky Rogers WA6JXO. provi- all local communications onded the 2-meter communication net on 146.65 simplex, to coo-take-off day. rdinate the arrival of aircraft

and pilots at the various ins-The PAARA station W60TX was pection points prior to the manned by Fred Canham and his race. On race day they providedtrusty crew from Saturday morthe on-the-field communicationsning until the end of the race that allowed race officials to on Monday afternoon, July 10th. start the aircraft winging east. They monitored and followed the ward at 30 second intervals.

Then all attention shifted to agintayawagasrthay waited States, the PAARA operation upstairs.

(See page 5 for details)

WB6AAE REPEATER GROUP WA6JXO, Lucky - Organizer WA6CZJ Bob: WA6AVO, La Kay W6QWS, Fred WB6BDD, Amos K6KAP, Mack WB6CQW, Hart K6TMI, Clem WB60DQ, Janie W6FFC, Mike W6NQN. Bill WA6HYR, Dick K6CCJ. Mel W6PSB, Jim W6WTZ, Dick WB6IKK, Joe WB6CKT, Noland WB6RFK, CharlieWB6GWQ, Roy

This 2 meter network handled airport and to the hotel on the

arrivals and departures at check

the amateur network.

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Charles Carpenter, K6HPP, 786 Coleman Ave., Apt K, Menlo Park, Ca. 94025. Or call 325 4845 for further info.

\*\*\*\*\*\*\*\*\*

WANTED Garage door opener with two remote controls. Call Vance 854 0803

SOMETHING FISHY! Kip Wallace signs himself by W2PGW. He has participated in several functions locally ing that call. However FCC lists the call as that of Ralston Nelson of Watchung N.J. WHAT GOES ON HERE KIP? The amateur bands are for the use of QUALIFIED hams. Where do you stand? \* \* \* \* \* \*

Paul Thekan WN6DQU, is one of the busyiest of our PARTI-CIPATORS! ! ! He recently took Andy at 854 2759 for info. a large box of spare condensers and resistors to Andy Korsak as a start on the PAARA "Junk-Box-Reserve" for use by any interested member. Call -

WANTED SWAN 270 in good condition call Fred 948 9238 (For a

friend of his) \* \* \* \* \* \* \* \* \* \*

> Hal Moore W6DEF tells me jis old typewriter is getting into the habit of misspelling words! Can't let that go on so Hal is buying himself a new and correct spelling Hermes! I've depended a long time on Hal for news items and he now volunteers to assist in the preparation of PAARAGRAPHS! Knowing how busy he is I doubly appreciate his offer. THANKS HAL. \* \* \* \* \* \* \* \* \* \*

Paul also is teaching a class of youngsters, about 20, the basics of electronics. All of this in addition to making an excellent score on Field Day! !

#### EDITORS RESIGNATION

Toward the end of 1971 it became evident that my business commitments and personal uing PAARAGRAPHS. time requirements would not allow me to continue as editor of PAARAGRAPHS. Nor could facilities who have given I continue to devote time to obtaining and preparing as Maintenance of membership records, issuance of memberion of mailing lists, issuing publicity releases, coordination and direction of the C-D activities of the Club, responsibility for the Club insurance program, the direction and control of the Club raffles, arrangement of Club programs each month and many other activities all resulted in a greater workload than my schedule would permit. I therefore informed the Board of Directors that I must plan to drop these activities.

Some small relief resulted but it has not been adequate to allow me to continue.

I therefore find it necessary to resign as Editor of PAARAGRAPHS and will phase out other activities over the next few weeks.

I want to take this oppor-

tunity to thank all those who have assisted me in so many ways over the past three years in preparing, editing and iss-

In particular I wish to thank the many companies and their support to the Club through their advertising in the well as billing and collecti- paper. This has allowed publing for the ads in PAARAGRAPHS cation and distribution to many amateurs both members and nonmembers of the Club. It has ship cards, continuous revis- also allowed the Club treasury to be built up to about 3700 which makes it possible to go forward with many programs.

As a final remark I must say that I have been very much frustrated in persuing my basic philosophy of pressing for every advantage to the Club as opposed to advantage to the individual from Club activities. I have been very dissapointed that the greatest number of those joining the Club have done so with no thought of assisting the Club in any way but to take advantage of every facility of the Club to their individual advantage.

I have been further very dissapointed that the greatest number of members appear to have no feeling whatsoever as to their responsibility toward the community. Each appears to feel the community owes them something. So 73 and THANKS.

FIELD DAY All stations were on our As we outlined for you last big emergency power unit. It month in PAARAGRAPHS our Fieldnever even grunted with the Day crew went to work with a vengence this year. All had the welfare of the Club at heart (well almost all! 1)& our scores show their dedication to the cause.

load. Only problem was a broken gas line which was soon fixed by our expert maintenance man, Ed Fairbanks. W6AIN. Total QSO's were 927 for a total score of 2134.

There were a total of TEN PARTICIPATORS who manned the three transmitters plus the Novice station.

We had excellent publicity and handled messages to the Section Manager as well as emergency coordinator.

	HERE IS HOW THE POINTS WERE SCORED
Band	No. of QSO's Xmtr DC Input
80 C.W.	24 T-4XB 180W
75 ph	111 HV100 180W
40 C.W.	98 T-4XB 180W
40-ph	194 HW100 180W
20 C.W.	$T-4XB \qquad 180W$
20 ph	151 SWAN 350 180W
15 C.W.	16 T-4XB 180W
15 ph	144 SWAN 350 180W
10 oh	3 SWAN 350 1.80W
Novice	63
	927
	410 bonus points
	21.34

Although we are very disappointed in the number of our members who prove to be NON-PARTICIPATORS and in those in the Club who are more concerned with their own pleasure than the welfare of the Club we are VERY PLEASED with the showing made by our NOVICES. Those youngsters were really IN THERE PITCHING. We oldtimers envied their energy and applauded their dedication. Next year will - all together put the CLUB over the top as a national contender ! !!

BECOME A PARTICIPATOR

FOURTH OF JULY PARADE The 33rd annual Redwood City WN6MZS; Ralph WB6HIX; Bill 4th of July Parade got under way at 10:30 AM. Thirty six communities were represented

in the 21 hour parade, coming Officer was that each year we from as far away as Sacramento improve in our ability to nanthe marchingunits was the Air Force Academy's Drum & Bugle Corps. Captain Elgin Long of

As for many years in the past, the RC C-D Net members furnished communications. At the microphone of W6WWJ/6 was Ken, K6DRN and there were 8 portable units stationed along Radio Operators enhances the the parade route. There were 3 major and 2 minor emergencieshandled as well as much routine traffic. The RACES Plan was used on a frequency of 145.49 MHz. The RC Radio Officer, Dick K6ANN, was in charge of the entire operation rig. Not much time out from He is a member of the PeninsulaSRI but enjoys hamming. Cellebrations Association.

Demonstrators threatened to stop the parade and the San Mateo Riot Squad, which was on standby duty, had to be called into action to disperse 6M Heath lunchbox to get on the unrully people. No one was the air with. Between moving hurt and only one arrested.

Amateurs who participated in SRI he has been real busy communications (all of them AREC members) were: Dick K6ANN; Ken K6DRN, Glen W6UOK; Bob W6VQV; Bob K6UKF:

Art WB6MED, Mike WA6AIX, Mike WA6VGR; Joe W6GYX; Steve WN6DQT Andy VE3FZK and Hal W6DEF.

A comment from the Radio There were 30 floats and among dle the required communications effeciently. It is also noted that new faces are seen and new voices are heard taking the Woodside was the Grand Marshallplace of those who for reason or another leave the scene of action.

We feel very sincerely that this demonstration of Public Service by our group of Amateur image of the Amateur Radio Fraternity in the public eye. \* \* \* \* \* \*

WELCOME NEW MEMBERS Dean F. Babcock, W60EB, Adv. Lic. With his KWS-1 Dean work on 20 meters. Also has a 2M mobile

Gerald V. (Jerry) Lucha, W60JE had experience in Thailand as well as in W3 land. Has an NCX-5, a 2M rig and a to a new QTH and working at lately, but give him time he will meet you on the air!

NICE TO HAVE YOU ABOARD

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UP COMING EVENTS Mark your calendar for the following events:

Event: PICNIC - 3 Club Special.of the selling price. Each Date : Sunday 24 September Place: Huddart Park. SM Co.

Put up a picnic lunch and get the family together for this "get acquainted" event. There will be coffee, soft drinks, hot dogs available at the picnic area. Games and fun will be arranged for all. Call Gene Sussli for any more info. 349 6179.

Event: TRANSMITTER HUNT Date : Saturday 12 August Place: Start at SP Depot in Redwood City 7PM.

Gary Perazzo, K6LVJ, on the C-D Net Monday 24 July announced that he is setting up a transmitter on 145.49Mhz with a continuous signal on the air. The intercom channel will be on 146.94Mhz FM. All are welcome to participate.

Event: AUCTION - PAARA Date : Friday 13 October Place: AMPEX Cafeteria (This is tentative).

Everyone welcome to bring his material to sell. Each will have a choice of auctioning his material or he may JOIN THE CLUB BE A PARTICIPATOR set up his own table for sell-

ing his own materials. Tables will be rented at a flat rate while auctioned material will be charged a small percentage seller will be limited to a

given number of "lots". Start now getting your stuff together for the big AUCTION on 13 October. Call Fred Canham W6QWF 948 9238 for info.

\* \* \* \* \* \* \*

BOARD OF DIR. MTG. 7/12/72, PAARA Trailer SRI. Discussion of PP Derby.

Board approved payment of \$54 for PAARA liability insurance. Paid Ed Fairbanks for the FD gasoline - \$8.65.

Treas. read ltr to L.B.Nelson Co. thanking for FD site.

Fred points out we made a total of 1980 points on FD 1971. in 1972 is is 2129.

Discussion of PAARA 2m Net on 145.24. Fred points out that until members start talking to one another there will Call Garry on 854 3599 for infbe little Club cooperation or coordination. It was pointed out that PAARAGRAPHS has failed to coordinate Club member activities. Participation by members is the bare minimum. Discussion of 13 Oct Auction.

### TECHNICAL TOPICS de VE3FZK/W6

### AMATEUR TV AT FIELD DAY AND POWDER PUFF DERBY

Just to prove it could be done, I installed the WGOTX/TV station in my camper on a little red Datsun pickup, complete with ART-28 transmitter, 100 ft. of big heavy RG-17 coax, 16 element J-beam, rotor, TV receiver and converter - the whole ball of wax. Despite outcries from field day chairmam, Fred Canham, president of PAARA, and others who feared possible interference by 15,750 KHs harmonics, I did not interfere with communications in any way at the field day site. I transmitted pictures of the tents and activity around them to a ham in Sunnyvale, and he transmitted a picture up to me. We saw a weak snowy picture from him but he said later that he did not see any videoffrom us at all. I guess the Los Altos Hills got in the way too much. Anyway, we had some fun trying.

The following weak I drove the mobile TV station down to the San Carlos airport and I set up operations right next to the Flood Aviation building where the other PAARA members had their VHF and HF setups. I had the camera on a tripod on top of the camper and I could get a good view of the whole operation from there. Thekan WN6DQU holped me set up the club's J-beam and feed it with the BG-17 up on top of the 20 meter beam the other guys had set up on top of the Blood building. We then went over to the Villa Hotel in San Mateo where the Powder Puff Derby registration room was, and we set up a receiver and converter for the 440 MHz band. We also got permission to put my bandsaw UHF TV antenna on the roof and then Bjorn Forsberg SM5UR dropped by with a 432 MHz preamp to lend us for the occasion. Paul and Dan Lutz (WN6DQU of PAARA, WN6DVA of the San Carlos Club) staged at the Villa Hote 1 and tuned around with the receiver while I manipulated the WGOTX/TV station at the air port, After some adjustments at both ends v. finally got a clear snow-free picture through. The girls got a tig kick out of the whole operation. One thing lacking, though, was some publicity about what we were doing. The few of us hams around were too busy. manipulating the equipment, and it is too bad we did not have some extra hams around there to act as "producers" and "directors", plus

some attention getters at the receiving end. Most people looking at the Tv picture didn't realize what was going on, I was told later. Next time we throw a ham TV party, how about some more participators? Your next chance will be at ;the October ham fest in San Mateo. Bill Jackson and I are planning to set up two-way ham TV there, possibly between some special point of interest and the Royal Coach Hotel where the convention will be. Maybe I ought to have the camper loaded with the TV station out in the parking area, where we can get PAARA some publicity by transmitting pictures of people arriving.

#### COLOR TV CAMERA PROJECT

Theis project has been temporarily shelved due to lack of laboratory space at SRI, where I was using a corner of an electronic engineering lab close to my office prior to my one month vacation. I am supposed to be able to use that space again once some possible SRI contract negotiations are decided on. This kind of amotuur project is not exactly a "garage" variety" type -- I need to use scopes, signal generators, video monitors, etc. which I don't have at home -- and I am very grateful to SRI for allowing me some lab space for it. The manager of the group running this lab is Milt Adams, WBSKOR, who is quite active on the DX bands. Some of you DX hounds might have run into him the air.

#### 2-METER PROJECT

Well, this old unfinished project has just been revived. While I haven't been able to work on the color TV development, I decided to blow the dust off the W6HDO solid state transmitter which I build about a year ago, and never did get to work. After a lot of tinkering around, I finally discovered that I had missed placing a 51 pf capacitor on the pc. board! This one capacitor madd all the difference. I haven't put the thing on the air yet -- just checked it out on a dummy load and listedned to it with a twoer I have been borrowing for him past year. It puts out exactly the same amount

of power as the tweer, about a watt or watt and a half, I guess.

The club still has the master p.c. board layout and a negative to make more boards,. Anybody wanting to build this transmitter should contact me for further infe at 854-]759 or 326-6200 x 2853 or write to the PAARA P.O. Box 911 M.P. Also, see last year's Aug. and Sept. PAARAGRAPHS where we published the layout and circuit.

John Ellison W6AOI called me up several times recently and he is undertaking the continuation of the receiver side of this project. He researched what commercial outfits in FM transceivers are using for circuitry, and he has come up with some good design ideas, so the club may have a receiver p.c. board in the near future. We have a good converter design by W6NBI, for the low selectivity IF strip with the phase locked loop NE 560 or 561 that I was using in my earlier design (which I intend to get back to soon.) but John is proposing double conversion with X-tal front end and tunable 1-st If around 12 MHz and 2-nd IF at 455 KHz

#### CORRECTION TO LAST : AUGUST ISSUE

If you still have your Aug. 1931 issue of PAARAGAPHS and are interested in building the W6HDO 2-meter transmitter, there was an error in the circuit diagram there. The 51 p.f. capacitor going from the top of the diodes to ground should have gone from the joint of these diodes to ground. This is the part I left out altogether and was the reason the one I built wouldn't work! Cliff Buttschardt, the designer, tells me this transmitter design has been thoroughly field tested and is excellent.

#### PARTS POOL FOR CONSTRUCTION PROJECTS

The club has now acquired vast quantities of useful capacitors, resistors, bubes, transformers, etc. for use in construction projects. Anybody looking for a particular part, call us and see if we have it, Also, anybody with parts they want to donate to the club pool, let us know.

## RED JOHNSON ELECTRONICS

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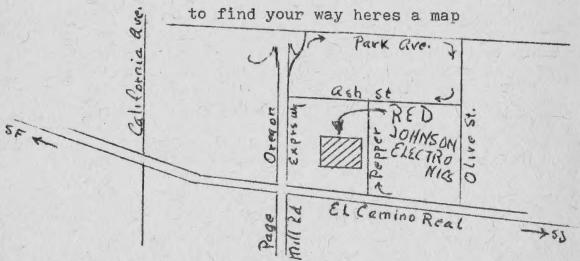
Monday thru friday: 8AM to 8PM; Saturday 8A-6P; Sunday 10-2

RED SEZ: Hope you had a fine vacation. Were the fish biting?

Were you able to work back home with your rig?

If you found that rig needed some goosing up -

#### GO TO RED JOHNSONS FOR PARTS



RED JOHNSON ELECTRONICS, 440 Pepper St., Palo Alto, Calif.

A large part of our last meeting was taken up to double-check the Field Day logs with the cross -chelk sheets. I was very pleased to find that there were very few repeat contacts. The first score as reported to ARRL is 1631 contacits, 14 operators and a total score of 3,862 points. Thisis a very satisfying result since we improv-

ed our scorefrom last year by over 500 points.

I wish to thank all participants for a 100% effort. Our star perforer this year was unguestionably Bill Jackson, W60WQ with his excellent score of 529 contacts on the 20 meter phone band Bill arrived at the FD site late Friday afternoon to start the erection of the equipment. He slept over at the site but he did not get much sleep, probably because he was too excited on what was to come. Starting at 11 AM saturday he began this full 24-hour stint that was to earn him top honors for our club. Another good performance was put in by Larry Reed W6CTH and Bill Burris, WA 6CXJ, with close to 350 phone contacts on the 40 meter band. That is about twice the number they said they would make. Well Larry, now that you know what you are capable of, you might as well bid 400 contacts at our next pre-Field Day Auction.

A special salute to our novices Dan and Connie Lutz, Tom Eberhart and many of whom operated a station for the first time. Considering the fact that they only had crystals for the 40 meter band we really appreciate what we got with 25 contacts. This is ... more than double the number of contacts of last year. By the way, I understand they had a real system going. Connie has a real nice fist and Tom can copy code at about 10 wpm, so what's more natural

but just to split those tasks.

Again, thanks to all participators for a good show.

73, Gene, WAGNVU

FOR SALE

Ten Tec PM3A, 20 and 40 meter cw transceiver. Qrp 5 watts. Unit comes complete with Ni-Cad battery and charger. Price: \$65. Call Warren Struven in San Carlos at 591-0125.

Herb Messler Still has some very reasonably priced equipment for sale, such as Ameco TX-62 X-mitter(\$65), Ameco 2 mtr convertor (\$20) an enclosed 5 ft. rack (\$25), TT-63 RTTY Repeater (\$20), Heathkit SB-620 Spectrum Analyser (\$70) And many ham magazines. Phone 593.6006

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